Validation of the Australian Midwifery Standards Assessment Tool (AMSAT): a tool to assess midwifery competence

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Background:

There is no current validated clinical assessment tool to measure the attainment of midwifery student competence in the midwifery practice setting. The lack of a valid assessment tool has led to a proliferation of tools and inconsistency in assessment of, and feedback on student learning.

Objective:

This research aimed to develop and validate a tool to assess competence of midwifery students in practice-based settings.

Design:

A mixed-methods approach was used and the study implemented in two phases. Phase one involved the development of the AMSAT tool with qualitative feedback from midwifery academics, midwife assessors of students, and midwifery students. In phase two the newly developed AMSAT tool was piloted across a range of midwifery practice settings and ANOVA was used to compare scores across year levels, with feedback being obtained from assessors.

Findings:

Analysis of 150 AMSAT forms indicate the AMSAT as: reliable (Cronbach alpha greater than 0.9); valid - data extraction loaded predominantly onto one factor; and sensitivity scores indicating level of proficiency increased across the three years. Feedback evaluation forms (n=83) suggest acceptance of this tool for the purpose of both assessing and providing feedback on midwifery student's practice performance and competence.

Conclusion:

The AMSAT is a valid, reliable and acceptable midwifery assessment tool enables consistent assessment of midwifery student competence. This assists benchmarking across midwifery education programs.

Statement of significance

Problem or Issue

Practice-based learning is a critical component for the development of professional competence in midwifery, however in Australia, no nationally validated tool to assess competence was available.

What is Already Known

Valid and reliable assessment of practice-based learning is essential in professional entry programs including midwifery.

What this Paper Adds

AMSAT is a valid and acceptable tool to assess midwifery students' ability to meet the Australian competency standards for the midwife.

Keywords

Clinical assessment, midwifery education, validation, competence, professional standards, practice-based learning.

Introduction

Practice-based based learning is a critical component of professional preparation in midwifery, as with other health professions. Indeed, in Australia it is mandated that 50% of the educational preparation for midwifery occur in practice-based settings.[1] Assessment of professional competence during practice experience placements is imperative to ensure the achievement of competence standards upon graduation.[2] Student's ability to competently perform in practice-based settings needs to be determined through a performance-based evaluation. Assessments of midwifery students practice should therefore be carried out in the context of real clinical practice.[1] The accompanying assessment process needs to be valid, reliable, transparent, have educational effect, be acceptable and feasible, and where appropriate, provide effective feedback for learning.[3] Ideally, assessment of midwifery student competence is based on the observation of routine authentic encounters which are rated by assessors using reliable and valid tools.[4-7]

In Australia, midwifery is guided by the Nursing and Midwifery Board of Australia's (NMBA) National Competency Standards for the Midwife.[8] The NMBA defines competence as 'the combination of skills, knowledge, attitudes, values and abilities that underpin effective and/or superior performance in professional/occupational area'.[8] Midwifery students are required to meet the NMBA midwifery competency standards upon graduation. Whilst midwifery education programs in Australia are required to assess competence against the NMBA standards, there is no nationally standardised assessment tool for this process. There has been some attempt across the country to use a standardised assessment tool in some states,[9] but in general, midwifery education providers across the country each have their own clinical assessment tools to evaluate students' clinical performance resulting in a proliferation of tools and inconsistency in assessment methods.[3,10]

The importance of valid and reliable instruments to assess standards of performance is well recognised.[3,11-13]In Australia, the national midwifery education standards require the use of assessment processes that are valid and reliable.[1] Valid and reliable tools are important so that the profession has confidence in the ability of health professionals to perform their practice.[11,12,14-16] A nationally standardised tool would promote improved compliance with assessors in practice-based settings only needing to know and use one tool for all students, and enable comparison of student outcomes and benchmarking across courses and programs.[15] If interpretations from practice-based assessments are to be valid then the instrument needs to be both psychometrically sound and educationally informative.[12,15,17,18]

This paper describes the development and testing of an assessment instrument, the Australian Midwifery Standards Assessment Tool (AMSAT) based on the National Competency Standards for the Midwife in Australia.[8] The systematic process outlined in this paper demonstrates the capacity of the tool to meet the criteria for good assessment[3].

Background

A review of the English language literature failed to identify any psychometrically validated assessment tools specific for assessing midwifery competence. Norman et al[19] demonstrated that the midwifery assessment tools used in Scotland lacked psychometric validity. There was one clinical assessment tool (CAT), which is a collection of 24 individual skills,[9,20] that had been evaluated at the reaction level,[21] but there was no evidence of validation of its psychometric properties. Similarly there was a midwifery mini-CEX tool[22] which also lacked psychometric assessment. Furthermore, one psychometrically validated assessment tool was located (CACTiM),[23] but the intent of this tool was for preceptors to assess critical thinking in midwifery students and not competence. It is clear therefore, that there is an absence of competence assessment tools that have been successfully rigorously tested, and that the tools that currently exist do not easily demonstrate attainment of the requisite competency standards.

Beyond the midwifery profession, development of national instruments to evaluate student competency performance in practice-based experiences has been achieved in Speech Pathology,[24] Physiotherapy,[25] Occupational Therapy,[26] and Nursing.[12] These tools determine whether students have met the professional standards through examination of authentic practice-based performance using quality validated assessment tools. Given the absence of a midwifery specific competence assessment tool, it became clear that a nationally relevant standardised tool was required.

McAlister et al[13] identified four major conceptual issues that should be considered when designing assessments of professional competence; these being measurement processes, quality measurement, assessment and learning, and assessment content. Measurement process relies on quality professional judgement, using clearly defined standards and based on sufficient quantity and quality of observational evidence.[13] Quality measurement requires statistical validation of the assessment tool.[13] Assessment and learning highlight the need for authentic and relevant assessment that capture the development of competence over time, and provides for lifelong

learning through formative, and not just summative processes.[13] Assessment content requires a tool that integrates generic and occupational specific competencies that are assessed in practice-based placements.[13]All of these concepts were considered in the development of AMSAT.

It is well known that the rater is a primary source of measurement error in performance assessment.[13] One approach to overcome this is the use of clearly articulated behavioural cues. Behavioural cues are useful because they describe discrete routine behaviours pertinent to care delivery and professional performance.[27] Several practice-based assessment tools used in nursing and allied health professional groups in Australia are accompanied by behavioural cues (e.g. APP,[25] COMPASS,[24] ANSAT[12]). Behavioural cues are self-explanatory statements that, through everyday language, clearly describe acts and practices that indicate domains of professional standards. Behavioural cues provide clarity and transparency for the assessor who needs to determine a student's level of attainment, and for students who should be encouraged to self-assess and who need to make sense of the feedback. The development of behavioural cues was viewed as an important component for AMSAT development.

Franklin and Melville[11] argue that within the nursing profession, there has been an over reliance on assessments that focus on a single 'snapshot-in-time', ones that focus on psychomotor skills (task performance), a 'one-size fits all' approach, and an over use of tick-box style assessments, all of which may fail to assess the practitioners 'real-life' competence to perform in the complex clinical environment. They posit the need for a shift to a more holistic approach, centred in the real-life practice environments, where assessments are undertaken by trained assessors, over a continuum of time, using a validated assessment tool, that enables identification over a range of performance levels such as Benner's[28] developmental scale of novice to expert, and incorporates feedback and reflection.[11] Whilst these arguments are structured in the context of nursing education, the issues and concerns are consistent with midwifery education and the development of AMSAT.

Prescott-Clements et al[17] have shown the value of longitudinal evaluation of performance, with multiple assessments undertaken to determine competence. Their tool[17] used generic global domains akin to the medical mini-CEX,[29] an approach which has previously been trialed in midwifery,[22] however mini-CEX are global in nature and not directly aligned with occupation specific performance standards. A combination of occupational competencies integrated with generic competencies which enable professional judgement and action to be exercised is required for a quality holistic assessment.[13]

Aim

The aim of this study was to develop and validate an assessment tool to evaluate the professional performance of midwifery students against the Australian National Competency Standards for the Midwife.[8]

Method

A mixed method, two phased approach, used to develop, refine, test and validate the AMSAT, follow the processes already shown effective with the development of the APP[25] and the ANSAT.[12] Phase one involved the initial development of the tool and behavioural cues, and phase two involved field testing of the AMSAT with both statistical testing of the psychometric properties and evaluation to determine usability and acceptability of the tool. Five universities participated in this study, and were invited based on a willingness to trial the new assessment tool.

Ethical Considerations

Human research ethics approval was obtained from each university of the research team members and participants were recruited from these universities. Informed consent was obtained from each participant prior to participation in all components of the study. Participant confidentiality and anonymity was maintained, and all data collected were de-identified.

PHASE ONE. Development of items and behavioural cues for AMSAT

Design: An iterative process of four focus groups was used to develop and refine the tool and behavioural cues.

Sample:

Purposive sampling of a mix of midwifery academics, midwives responsible for midwifery student assessment during practice-based experiences, and third year midwifery students were sought to provide a broad representation of stakeholders of the tool. A total of 24 people across four university programs contributed to this process.

Data collection and analysis:

An initial draft version of AMSAT and behavioural cues was created by two of the research team (LS & AH) following the format of the previously developed ANSAT[12] and the Australian National Competency Standards for the Midwife.[8] These were reviewed by an academic and a recent graduate for initial content. Following this, four focus groups where held, one at each of four

universities (across three states of Australia) to provide expert review to determine content validity. At each of these focus groups the participants were provided the current draft documents, read the suggested items and provided comment on whether the wording was an appropriate summation of what was stated in the standard. Discussion occurred until there was agreement for the statements by all focus group participants. The conversations were recorded to enable review if required. Each iteration, which resulted in the continued refinement of the wording was further verified with all participants through email. The refinement process ensured that the language in the tools was relevant and meaningful to midwife assessors and students, as well as academics.

The final AMSAT instrument contained 24 items in 4 domains (Fig. 1). A development anchor scale of unsatisfactory, limited, satisfactory, proficient and excellent was chosen. Rating scale anchors or labels are an important component of an assessment tool.[13] The Bondy scale[30] is one that has been frequently used in midwifery, however, the Bondy scale rates the level of assistance a student requires, and does not reflect holistic competence.[11,30] Behavioural anchors of performance support better judgement by raters as opposed to numerical or adjective terms.[14] In addition to the individual item scale, a global rating scale of overall performance was also included. Global rating scales are recommended in competence assessment,[31,32] and have been shown to contribute to both construct and concurrent validity.[33] On the reverse side of the tool a structure feedback table to promote self-assessment and development of a learning plan was included. This is consistent with good practice in feedback[34] and follows the Pendleton's rules approach to giving feedback.[35,36] The expert panel also sought the inclusion of an English language proficiency scale given the increasing numbers of students for whom English is not their first language. Each of the 24 items was accompanied by a list of performance indicators in the form of behavioural cues (Fig. 2). The behavioural cues were a non-exhaustive list of behaviours that described evidence of professional practice competence. These were intended to serve as a learning guide for students and to provide assessors with examples of unambiguous descriptions of behaviours that would indicate competence.[27]

PHASE TWO. Field testing of AMSAT

Design:

A cross-sectional descriptive design was chosen. To support the use of the new tool, education sessions were provided either face to face or through the availability of an on-line manual and instructional video (available at www.amsat.com.au).

Sample:

Midwives responsible for midwifery student assessment during practice-based experiences were invited to participate in the field test. They were responsible to ensure the completion of the AMSAT tool was performed alongside the current approved assessment tool.

Data collection:

AMSAT forms (Fig. 1) were completed by midwives supervising and assessing midwifery students. The midwife assessors were instructed to rate the student's performance using both the AMSAT and the required university assessment forms. On completion of the AMSAT assessment form the midwife assessors were also asked to complete a brief survey (Fig. 3) regarding the acceptability of the AMSAT tool. Midwives sent completed forms to the principal investigator.

Analytical processes: A series of recognised statistical analysis methods were applied to the AMSAT. The assumptions for factor analysis including Kaiser-Mayer-Olkin measure of sampling adequacy, Bartlett's test of sphericity, Scree Plot, Eigenvalues and parallel analysis (Monte Carlo Simulation) were checked to determine the suitability of the data for factorisation.[37] These statistical tests evaluate the number of factors or components in a tool, and determine the ongoing statistical analysis required. To determine the validity of AMSAT, that is whether the tool measures competency of midwifery practice and if it is unidimensional, a Principal Factor Analysis was then performed.[38] The number of factor/s was evaluated and the component matrix (loading) was extracted. The validity of AMSAT was also reanalyzed using the latest approach in the field using Mplus statistical software and by employing Exploratory Factor Analysing method.[39] To assess the reliability of AMSAT (it's precision and accuracy), Cronbach's alpha (a measure of internal consistency) was used for both total instrument items and for each individual domain.[19,40] To determine the sensitivity of AMSAT, the aggregated scores were calculated. The mean AMSAT scores of students in each year level were compared using ANOVA and a probability of 5% ($P<0.05$) was considered as statistically significant in this analysis. To evaluate the acceptability and usability of the AMSAT, medians and moods of the scores of midwife assessors' evaluation of AMSAT were calculated. All statistical analyses were performed with IBM SPSS for Windows version 23 (IBM Corporation, Armonk, NY). Qualitative open text responses were managed in NVivo 11 and subjected to a content analysis.[41]

Results

Data collection occurred within five university programs including Bachelor of Midwifery (with direct

entry and RN entry pathways) and a dual degree Bachelor of Nursing / Bachelor of Midwifery. Twenty-seven midwife assessors provided 118 AMSAT forms and an unknown number of assessors provide an additional 32 forms from three clinical venues. A total of 150 completed AMSAT forms and 83 completed evaluation forms were collected. Of the 150 completed AMSAT forms, on two occasions only were any of the 24 items left blank, showing 99.9% completion rate and therefore excellent compliance with using the tool. A global rating was included in 143 (95%) of the assessments. The feedback section was used less often with some content included in the achievement of previous goals for 113/150 (75%); what was done well for 128/150 (85%); what needs improving for 119/150 (79%), and plan for learning in 115/150 (77%) of the completed assessments. The quality of the written feedback varied greatly, from absent or poor, to very specific and useful.

Validation of AMSAT

Validity of a tool demonstrates that the internal content of the tool measures what it is supposed to measure with accuracy and precision. AMSAT included 24 variables in 4 domains (see Figure 1). The Kaiser-Mayer-Olkin value was 0.956 and the Bartlett's test of sphericity was statistically significant ($p<0.000$) which indicate the appropriateness of using Principal Factor Analysis[38] The Principal Factor Analysis extracted one factor which accounts for 70.7% of the variance and evaluates the competency of midwifery practice. Examination of covariance matrix demonstrated a high covariance among variables. The Scree plot (Fig. 4) demonstrates one component with the initial Eigenvalue of 17.0 and all the variable exhibited loadings (factor matrix) greater than 0.678. The Monte Carlo simulation (parallel analysis) demonstrated that only one Eigenvalue was significantly higher than the 95 percentile Eigenvalue of the randomly generated data (17.39 vs 1.4); which demonstrates that AMSAT is a valid tool and measures one factor. Results from the exploratory factor analysis using the Mplus program also demonstrated one factor with the Eigenvalue for the sample correlation matrix of 20.42, therefore confirming that AMSAT is measuring one component which is competency of midwifery practice. All of these statistical analysis methods demonstrated that AMSAT measures only one factor.

Reliability of AMSAT

Reliability of a tool demonstrates that the internal content of the tool measures with accuracy and precision. The AMSAT instrument (with 24 items) was shown to be reliable with a Cronbach's alpha coefficient of 0.984. The calculated Cronbach's alpha coefficient for each of the 4 domains also demonstrated a high internal consistency. Cronbach's alpha coefficient for domain 1 (Legal and

professional practice, questions 1 and 2, 5 variables) was 0.941; for domain 2 (Midwifery knowledge and practice, questions 3-6, 9 variables) was 0.950; for domain 3 (Midwifery as primary health care, questions 7-10, 5 variables) was 0.943; and for domain 4 (Reflective and ethical practice, questions 11-14, 5 variables) was 0.932. A Cronbach Alpha over 0.8 is considered very reliable.[19]

Sensitivity of AMSAT

The AMSAT has 24 items and is given a score of one to 5 for each item, the total score is within a minimum of 24 and maximum of 120. Whilst AMSAT is not designed to give a total score for competence (as a high score may be obtained in one or more domains while incompetent demonstrated by a low score, in another), scoring was used for the purpose of analysis to test sensitivity. The total score of each student's AMSAT measure was calculated and the means of total AMSAT scores at each year level were compared using ANOVA. AMSAT revealed to be a sensitive instrument in measuring the competency of midwifery practice. The calculated mean scores (Mean±SD) for first, second and third year students were 84.1±14.7 (n=42), 94.6±12.8 (n=40), and 110.4±13.4 (n=24), respectively. The mean of AMSAT scores for second year students was significantly higher than the first years, ($p<0.001$). The mean of AMSAT scores of third year students was significantly higher from both first and second years ($p<0.000$ and $p<.000$), respectively. This shows AMSAT is suitable to demonstrate developmental progression of performance.

Utility of AMSAT

Feedback was obtained from the midwives who assessed students using the AMSAT to assess students' practice-based performance. The feedback form used a five point Likert scale questionnaire where the assessor selected a number that best reflected their opinion for each statement (1= Strongly Disagree, 2 = Disagree, 3 = Undecided, 4 = Agree, 5 = Strongly Agree). The calculated medians and modes of the midwife assessors' evaluation of AMSAT (n=83) indicated that users agreed/strongly agreed regarding the acceptability and usability of AMSAT (Table 1). Of the completed evaluation forms (n=83) all general comments provided were mostly positive. Statements such as "fabulous", "clear and concise", "user friendly" and "very-helpful" highlight the overall positive sense, while the few negative toned comments included "too much writing" and "not task-specific". There was a consensus that the primary tool on the front page was excellent, with the only suggestion for change being to note that the scale descriptors were on the reverse side of the form. However, there were varied comments about the reverse side of the tool, mostly around the feedback section and its wording. While most responses praised the concept of the feedback boxes, some felt the term "poorly" should be removed, and that completion of much of this page should be

the responsibility of the student. Concerningly, one respondent felt that *"anything done poorly is superfluous"*. There were concerns raised about midwives' feedback literacy and understanding of formative and summative feedback, that perhaps clinicians should do the performance assessment (front page) and clinical facilitators should be responsible to complete the feedback (back page). Additionally, whether this level of feedback is warranted on short placements was raised. As the AMSAT was completed in conjunction with the university's existing tools, three assessors commented on the variance of rating based on the anchors used when using AMSAT and other assessment tools (which used a Bondy scale). The lack of student signature on the tool was raised and the inclusion of the English language proficiency was praised. Suggestions for future included the development of a 'quick guide' to the assessment levels as the on-line manual was extensive, and perhaps some context specific cues. In summary, there was general agreement-as one respondent wrote-that the AMSAT was a *"Concise tool that facilitates consistent assessment relating specifically to midwifery standards"*.

Discussion

This study is the first to develop and psychometrically validate a tool specifically designed to assess competence of midwifery students in practice-based settings against the Australian National Competency Standards for the Midwife.[8] Using robust validation processes we have shown the AMSAT to be a valid, reliable and sensitive assessment tool. Furthermore, it achieved excellent utility with those who participated in the study.

Tool validation can be undertaken in different ways with different analytical approaches. In a similar study that validated a nursing assessment tool,[12] the researchers performed the validity analysis using Principal Component Analysis approach. Although Principal Component Analysis and Principal Factor Analysis have very similar nature, experts recommend the use of Principal Factor Analysis for validation of a measurement tool in social science and health care.[38] Using the latest development approach in this field,[39] EFA using Mplus program, demonstrated that the developed AMSAT instrument is a valid tool in measuring the competency of midwifery practice.

Utility of a tool is also an important aspect in evaluation. In this study, most of the midwife assessors provided positive feedback about the usability of the tool, as well as the over-all acceptance as a suitable tool to assess midwifery students in practice. This is an important aspect for success in implementing a standardised assessment tool.[3] Many health professionals identify lack of time as a

major impediment to clinical supervision and robust clinical assessments.[42,43] Duffy's[44] seminal work identified a 'failure to fail' students while on placement, while more recent studies have shown clinicians cite busyness as well as a lack of understanding the assessment tool,[45] and complexity around assessment,[46] as contributing factors to inaccurate clinical assessments. Additionally, concerns have been raised about the ability of clinicians to rate competency/practice standards in clinical assessments, identifying a need for clear criteria linked to clinical evaluation.[47,48] Implementing a tool that is time efficient, easy to use, fit for purpose, and able to capture the quality of the student performance is important to ensure that accurate assessment is being made. The AMSAT achieves these goals. Furthermore, the AMSAT was valued by the midwife assessors and therefore they were compliant in using the tool. In particular, the tool was seen to provide a consistent means to assess midwifery competency standards with discriminatory capacity between year groups.

Much of the suggestions for improvement of the tool related to the reverse side of the form. It is here that assessors were expected to document feedback for the student, provide an assessment of English language skills and sign off the assessment. The value of written feedback to students cannot be underestimated.[34] It is alarming that many assessors raised concerns about the feedback literacy of clinician midwives and some assessors. This is not surprising given previous research in this field clearly shows the poor preparation of clinicians for their feedback and assessment role.[34,36] Clinical education skills such as feedback and assessment should be incorporated into undergraduate programs, if graduates are expected to support students in practice-based settings.[49] The use of the term "poorly" was not accepted by many assessors and has since been removed. The frequency and timing of use of AMSAT for best educational effect has not been addressed, however it is well known that a single summative assessment is less effective for learning than a mid-placement formative assessment as well as summative assessment.[5] Any practice-based experience should incorporate feedback, whether verbal or written, as this is the best guide for the student to monitor their performance and development. Moreover, the quantity and quality of observational evidence will influence the quality and accuracy of the assessment.[13]

The AMSAT has been designed as a competence assessment tool, and as such is not specific to tasks. Midwifery practice should never be task-based, but rather holistic and women-centred. It is concerning that one assessor felt the tool "not task-specific". The AMSAT is designed for assessing competence and immediate feedback, and as such can be used for self-assessment and external-assessment, and for formative or summative purposes. It was suggested that much of the feedback

section could be completed by students and indeed, if truly following Pendleton's rules,[35] student self-awareness of strengths and weaknesses would be elicited thought an effective feedback conversation. It would be ideal for the student to write their own self-assessment first prior to a feedback conversation with the midwife assessor.[4,6] This practice should be encouraged and might address one respondents concerns of there being too much writing! The recognised variance of scoring based on the anchors used with AMSAT compared to those which used a Bondy scale[30] is not surprising given they measure different constructs. The anchors used on AMSAT are developmental for competence, as opposed to a measure of assistance required.

Modifications of the reverse side of the tool were made following the evaluation feedback. Wording in the feedback section has been amended, and a place for the student to sign has been included. Figure 5 shows the new version reverse page based on the evaluation outcomes of this study. The AMSAT and all related resources are freely available at www.amsat.com.au. We encourage midwife educators and assessors to make use of the AMSAT validated tool. We ask that the tool also retain the AMSAT logo, however the institution logo may be added, and the relevant course, demographic details and feedback sections may be amended to suit individual contexts.

Limitations

As with all research, there are potential or real limitations. One of the limitations in our study might be the small sample size. Although there is no definite answer about the number of sufficient samples for factor analysis, there is agreement that factor analysis for sample size of below 50 is inappropriate. According to the recent published information,[38] our sample size was in acceptable range of above 50 and the subjects-to-variables ratio (STV) of our study was almost 6.25 (above the recommended value of 5.[38] Additionally, our sampling was limited to only five universities. As our focus was on tool development and validation, we did not investigate inter-rater reliability. Inter-rater reliability is a consideration of how well two individual assessors will produce the same score the same student performance.[11] There is a need for further investigation on inter-rater reliability when using the ASMAT.

Conclusion:

The AMSAT as a tool to assess midwifery student practice competence has shown to be valid, reliable and user friendly. As such, it has significant potential to provide educators and midwives with a useful tool that when used in conjunction with appropriate feedback, can aid in the

preparation of high quality midwifery graduates. Additionally, using a standardised tool across Australia would facilitate national benchmarking across midwifery education programs.

Conflict of interest

None of the authors declare a conflict of interest.

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AMSAT – Australian Midwifery Standards Assessment Tool

Student Name:		**Placement location:**	
Student ID:			
Assessment type:	❑Formative ❑ Summative	**Duration:**	

	Domain statement and Assessment Items	Unsatisfactory performance	Limited performance	Satisfactory performance	Proficient performance	Excellent performance	Not assessed
LEGAL AND PROFESSIONAL PRACTICE	***1) Functions in accordance with legislation and common law affecting Midwifery practice***						
	Understands and practices with reference to relevant legislation and local policy	1	2	3	4	5	N/A
	Documentation is timely, comprehensive, legible and accurate	1	2	3	4	5	N/A
	Obtains informed consent for all midwifery care	1	2	3	4	5	N/A
	2) Accepts accountability and responsibility for own actions within Midwifery practice						
	Complies with professional expectations of behaviours based on appropriate knowledge	1	2	3	4	5	N/A
	Practices within own midwifery scope and consults and/or refers when outside of scope	1	2	3	4	5	N/A
MIDWIFERY KNOWLEDGE AND PRACTICE	***3) Communicates information to facilitate decision making by the woman***						
	Uses language that is readily understood and free of jargon	1	2	3	4	5	N/A
	Involves the woman in planning and decision making about her care	1	2	3	4	5	N/A
	4) Promotes safe and effective Midwifery care						
	Promotes respectful woman centred care and supports continuity	1	2	3	4	5	N/A
	5) Assesses, plans, provides and evaluates safe and effective Midwifery care						
	Accurately assesses the physical, social, emotional and spiritual needs of the woman.	1	2	3	4	5	N/A
	Critically analyses assessment findings and plans appropriate woman centred care	1	2	3	4	5	N/A
	Optimises healthy outcomes for the woman and her baby through midwifery care	1	2	3	4	5	N/A
	Effectively evaluates the care outcomes in consultation with the woman	1	2	3	4	5	N/A
	6) Assesses, plans, provides and evaluates safe and effective Midwifery care for the woman and/or baby with complex needs						
	Collaborates as an effective team member while continuing to provide Midwifery care	1	2	3	4	5	N/A
	Identifies emergency/urgent situations and initiates appropriate actions and escalation pathway	1	2	3	4	5	N/A
MIDWIFERY AS PRIMARY HEALTH CARE	***7) Advocates to protect the rights of women, families and communities in relation to maternity care***						
	Promotes woman's capacity to influence their own health outcomes	1	2	3	4	5	N/A
	Participates within primary health care principles	1	2	3	4	5	N/A
	8) Develops effective strategies to implement and support collaborative midwifery practices						
	Participates as an effective health care team member through professional relationships	1	2	3	4	5	N/A
	9) Actively supports Midwifery as a public health strategy						
	Addresses community and public health issues for woman including breast feeding	1	2	3	4	5	N/A
	10) Ensures Midwifery practice is culturally safe						
	Demonstrates cultural awareness and provides culturally sensitive midwifery care	1	2	3	4	5	N/A
REFLECTIVE AND ETHICAL PRACTICE	***11) Bases Midwifery practices on ethical decision making***						
	Acts ethically to ensure rights, privacy and confidentiality are maintained	1	2	3	4	5	N/A
	12) Identifies personal beliefs and develops these in ways that enhance Midwifery practice						
	Manages personal values, beliefs and power dynamics in midwifery practice	1	2	3	4	5	N/A
	13) Acts to enhance the professional development of self and others						
	Demonstrates a commitment to learning and reflects on own practice	1	2	3	4	5	N/A
	Appropriately shares and critically analyses evidence with others	1	2	3	4	5	N/A
	14) Uses research to inform midwifery practice						
	Uses research evidence, woman's preference and clinical knowledge to guide midwifery practice	1	2	3	4	5	N/A

GLOBAL RATING SCALE - In your opinion *relative to their stage of practice*, **the overall performance of this midwifery student was:** ❑ **Unsatisfactory** ❑ **Limited** ❑ **Satisfactory** ❑ **Proficient** ❑ **Excellent**

– Australian Midwifery Standards Assessment Tool

Feedback	
How have previous learning goals been addressed?	
What was done well?	
What needs to be improved?	
Plan for learning and timeframes for achievement	

Spoken English proficiency: ❑ unsatisfactory ❑ needs development ❑ satisfactory

DISCUSSED: ❑YES ❑NO **ADDITIONAL PAPERWORK:** ❑YES ❑NO

DATE: _____

*complete this section ONLY if this is a summative assessment

Passed: ❑YES ❑NO

ASSESSOR NAME: _____

ASSESSOR SIGNATURE: _____

Assessor's Position ☐ Midwife clinician ☐ Clinical Facilitator ☐ Other_____

STUDENT SIGNATURE: _____ **DATE:** _____

Scoring Rules

- Circle N/A (not assessed) ONLY if the student has not had an opportunity to demonstrate the behaviour
- Circle ONLY ONE number for each item
- Evaluate the student's performance against the MINIMUM competency level expected for their level of training

Code

1 = Requisite behaviours and practices NOT performed [limited ability to perform requisite behaviours] 2 = Requisite behaviours and practices performed inconsistently [requiring close supervision]
3 = Requisite behaviours and practices consistently performed at a safe/satisfactory level
4 = Requisite behaviours and practices consistently performed in a proficient manner [requires little supervision] 5 = Requisite behaviours and practices consistently performed in an excellent manner [uses initiative]
N/A = not assessed. **Note: a rating 1 &/or 2 indicates that the competency statement has NOT been achieved

More information available at: www.amsat.com.au

AMSAT – Australian Midwifery Standards Assessment Tool Behavioural Cues

Legal and professional practice

1. Functions in accordance with legislation and common law affecting Midwifery practice

Understands and practices with reference to relevant legislation and local policy

- Follows policies and procedures of the health service (e.g. practice guidelines, workplace health and safety, and infection control)
- Demonstrates knowledge of legal frameworks

Documentation is timely, comprehensive, legible and accurate

- Follows the legal requirements of appropriate documentation, including date, time, author and designation
- Documentation follows a logical order, is relevant and legible.

Obtains informed consent for all midwifery care

- Provides appropriate resources and time to facilitate informed consent from the woman prior to midwifery care

2. Accepts accountability and responsibility for own actions within Midwifery practice

Complies with professional expectations of behaviors based on appropriate knowledge

- Arrives punctually, and is fit to practice
- Advises in good time of absence from placement.
- Organises self to provide effective care
- Wears appropriate uniform, identification and personal protective equipment when necessary
- Maintains professional boundaries
- Has appropriate knowledge base for level

Practices within own midwifery scope and consults and/or refers when outside of scope

- Demonstrates awareness of own limitations.
- Recognises and actively seeks collaboration or referral with other health professionals when outside of own scope of practice
- Practices under appropriate supervision
- Uses a decision framework

Midwifery knowledge and practice

3. Communicates information to facilitate decision making by the woman

Uses language that is readily understood and free of jargon

- Uses language that is appropriate and meaningful to the woman
- Uses relevant learning strategies to inform and educate the woman
- Establishes rapport with the woman and family
- Seeks feedback from the woman to ascertain her understanding

Involves the woman in planning and decision making about her care

- Actively listens to and is sensitive to the views of the woman and her family
- Facilitates the woman to make informed decisions about her care through sharing of knowledge

4. Promotes safe and effective midwifery care

Promotes respectful woman centred care and supports continuity

- Demonstrates respectful partnership with the woman
- Defines and promotes midwifery continuity of care and its benefits
- Organises and prioritises workload for safe midwifery care

5. Assesses, plans, provides and evaluates safe and effective midwifery care

Accurately assesses the physical, social, emotional and spiritual needs of the woman

- Uses information gathered to manage appropriate midwifery care
- Demonstrates comprehensive assessment of a woman and her baby that is sensitive to their needs
- Demonstrates sound knowledge and skills to support the woman's physical, social, emotional and spiritual needs
- Effective use of questioning to gain necessary information
- Responds to woman's questions with knowledge and sensitivity

Critically analyses assessment data and plans appropriate women centred care

- Uses information gathered to accurately plan, prioritise & initiate midwifery care
- Interprets and acts appropriately on information collected
- Manages environment effectively and sensitively according to the woman's needs

Optimise healthy outcomes for the woman through midwifery care

- Demonstrate safe medication management
- Protects, promotes and supports breastfeeding
- Supports and assists with the woman's choice of infant care

Effectively evaluates the care outcomes in consultation with the woman

- Reviews care outcomes to ensure effective midwifery care

6. Assesses, plans, provides and evaluates safe and effective midwifery care for the woman and/or baby with complex needs

Collaborates as an effective team member while continuing to provide midwifery care

- Understands and recognises complexities and co-morbidities of the perinatal & neonatal periods

Identifies emergency/urgent situations and initiates appropriate actions and escalation pathway

- Responds effectively to rapidly changing situations
- Compare findings of complex situations to those of normal parameters and act accordingly, include initiate timely referral

AMSAT – Australian Midwifery Standards Assessment Tool Behavioural Cues

Midwifery as primary health care

7. Advocates to protect the rights of the women, families and communities in relation to midwifery care

Promotes woman's capacity to influence their own health outcomes

- Collaborates with the woman and her family to formulate care
- Educates the woman in self-assessment
- Advocates for the woman through encouragement to be an active participant in the health care of herself and her baby
- Maintains the privacy, dignity and respect for the woman taking individual preference into consideration at all times

Participates within primary health care principles

- Provides health promotion and illness prevention midwifery practice
- Support the woman's self-determination for care

8. Develops effective strategies to implement and support collaborative midwifery practice.

Participates as an effective health care team member through professional relationships

- Interacts with members of the health care team, in a collaborative and respectful way
- Uses a variety of methods to communicate with other professionals – (e.g. written, verbal, digital)
- Can initiate appropriate referral of a woman's care within the health care team
- Aware of own limitations and communicate this responsibly

9. Actively supports midwifery as a public health strategy

Addresses community and public health issues for woman including breast feeding

- Advises and educates women and their families on public health initiatives (e.g. – quit smoking, recreational drugs and alcohol during pregnancy)
- Engages with community supports and agencies relevant to perinatal and family health care

10. Ensures Midwifery is culturally safe

Demonstrates cultural awareness and provides culturally sensitive midwifery care

- Identifies cultural origin of the woman and her family
- Recognises the specific needs of Aboriginal and Torres Strait Islander women and their families, using indigenous health workers to optimise perinatal experience and outcomes.
- Respects the cultural difference of individuals and groups.
- Demonstrates cultural sensitivity across a range of contexts.
- Uses language interpreters where appropriate.
- Facilitates strategies to address cultural specific care needs

Reflective and ethical practice

11. Bases midwifery practice on ethical decision making

Acts ethical to ensure rights, privacy and confidentially are maintained

- Apply local policy regarding privacy and confidentiality including the use of social networking and personal security
- Practices according to ethical & professional standards (e.g. Code of Ethics, Code of Professional Conduct)

12. Identifies personal beliefs and develops these in a way that enhances midwifery practice

Manages personal values, beliefs and power dynamics in midwifery practice

- Demonstrates respect & empathy for women and their families
- Establishes trust with women and the health care team
- Acts to eliminate occupational violence including victimisation and bullying
- Recognises and manages own attitudes and potential power imbalances

13. Acts to enhance the professional development of self and others

Demonstrates a commitment to learning and reflects on own practice

- Reflects on experiences to identify learning needs to advance their knowledge and practice
- Maintains a record of learning in accordance with educational requirements.
- Incorporates formal and informal feedback from colleagues into their practice

Appropriately shares and critically analyses evidence with others

- Contributes to peer learning activities
- Undertakes a review of the evidence when required

14. Uses research to inform midwifery practice

Users research evidence, woman's preferences & clinical knowledge to guide midwifery practice

- Locates and uses relevant current evidence to guide best practice in midwifery (e.g. – Perinatal practice guidelines, systematic reviews)
- Demonstrates evidence based midwifery practice
- Participates in quality practice reviews as appropriate and available (e.g. – clinical audit, journal club, research, and quality improvement projects)

AMSAT – Australian Midwifery Standards Assessment Tool Validation study

Clinical Facilitator/Student Assessor Evaluation

Instructions: please circle the number that best reflects your opinion for each statement **1** = Strongly Disagree, **2** = Disagree, **3** = Undecided, **4** = Agree, **5** = Strongly Agree						
1	The language used in the tool was easily understood	1	2	3	4	5
2	The behavioural cues were reflective of expected student behaviour	1	2	3	4	5
3	The behavioural cues were useful when assessing the student	1	2	3	4	5
4	The behavioural cues provided guidance when delivering student feedback	1	2	3	4	5
5	Organising the behavioural cues under the competency standards was helpful	1	2	3	4	5
6	The tool was practical in the clinical area	1	2	3	4	5
7	The tool can be completed in a timely manner	1	2	3	4	5
8	The scoring rules were helpful	1	2	3	4	5
9	The scoring code was easy to understand	1	2	3	4	5
10	I felt confident using the scoring code to rate the student's performance for each of the competency standard items	1	2	3	4	5
11	I felt confident using the global rating scale to judge the student's performance for their stage of practice	1	2	3	4	5
12	The tool is self-explanatory	1	2	3	4	5
13	Do you have any additional comments on the tool?					
14	Do you have any addition the behavioural cues would could assist other assessors?					

Thank you. Your participation and feedback is appreciated

Please return completed survey along with the completed AMSAT tool to

Associate Professor Linda Sweet, School of Nursing and Midwifery,

Flinders University GPO Box 2100 Adelaide SA 5001

Figure 4: Scree plot - Factor analysis

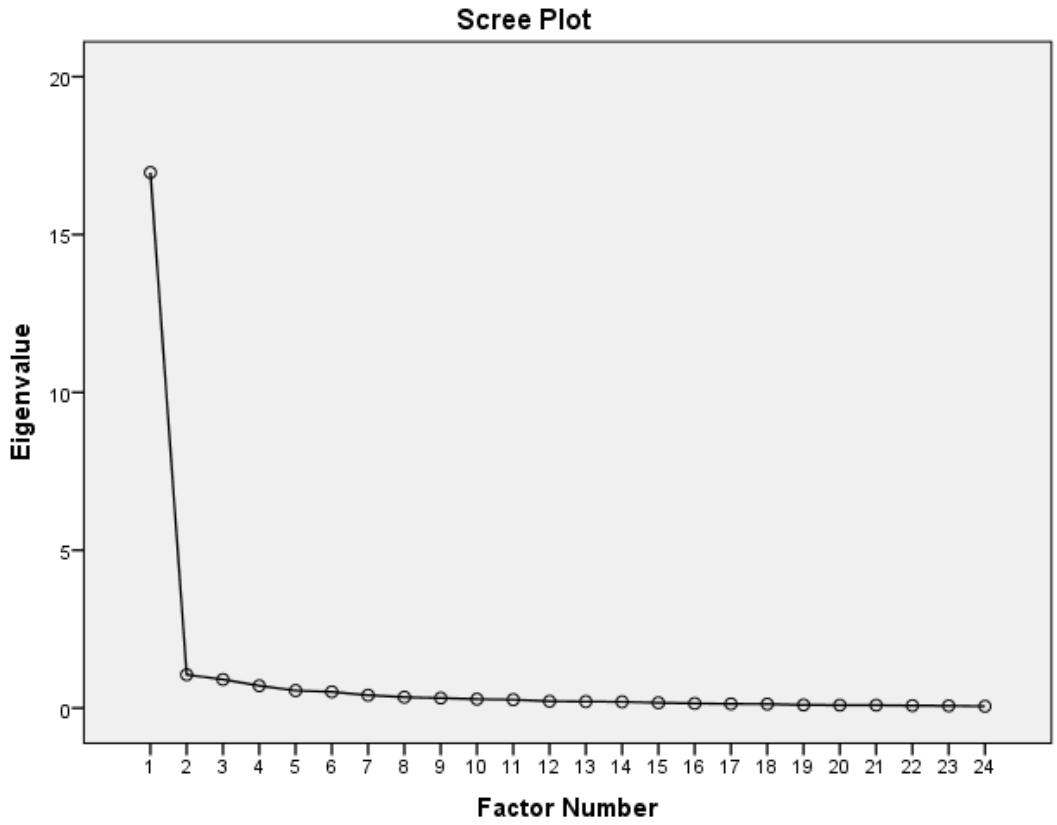

Table 1 Eigenvalue table, Mplus program, Exploratory Factor Analysis

EIGENVALUES FOR SAMPLE CORRELATION MATRIX

1	2	3	4	5
20.419	0.736	0.620	0.549	0.405

EIGENVALUES FOR SAMPLE CORRELATION MATRIX

6	7	8	9	10
0.339	0.238	0.178	0.171	0.152

EIGENVALUES FOR SAMPLE CORRELATION MATRIX

11	12	13	14	15
0.145	0.099	0.082	0.066	0.047

EIGENVALUES FOR SAMPLE CORRELATION MATRIX

16	17	18	19	20
0.035	0.018	-0.001	-0.022	-0.026

EIGENVALUES FOR SAMPLE CORRELATION MATRIX

21	22	23	24
-0.029	-0.048	-0.068	-0.104

Table 2 Median and mode of evaluation of AMSAT by Clinical facilitators/preceptors

AMSAT Evaluation Questions	Median	Mode
The language used in the tool was easily understood	4	4
The performance indicators were reflective of expected student behaviour	4	4
The performance indicators were useful when assessing the student	5	5
The performance indicators provided guidance when delivering student feedback	5	5
Organising the performance indicators under the competency standards was helpful	5	5
The tool was practical in the clinical area	4	4
The tool can be completed in a timely manner	4	4
The scoring rules were helpful	4	4
The scoring code was easy to understand	4	4
I felt confident using the scoring code to rate the student's performance for each of the competency standards	4	4
I felt confident using the global rating scale to judge the student's performance for this stage of their practice	4	4
The tool is self-explanatory	4	4